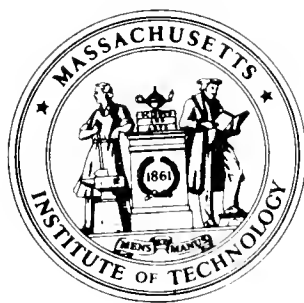


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DEVELOPMENT BANKING:
The Issue of Public and Private Development Banking

Paul E. Roberts, Jr.

May, 1969

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DEVELOPMENT BANKING:
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1. INTRODUCTION*

Development banking has been a traditional form of finance in under-developed countries for the past 150 years. Since World War II, however, the growth and sophistication of this type of financial institution has been significant. For example, prior to 1946, it is estimated that about a dozen viable development banks existed.¹ The number today is between 300 and 400.² No comparable institution to the development bank exists or has existed in the United States.³

In this study a limited number of public and private development

* The author is presently a Visiting Assistant Professor at M.I.T., Sloan School of Management. He wishes to express appreciation to J.D. Nyhart and A.Y. Badre who at various stages of this study provided the author with many timely insights.

¹Paul E. Roberts, Jr. "An Examination of the Lending Policy of Leading International Financial Institutions in the Light of a Comparative Analysis of Private and Public Development Banks", an unpublished Ph.D dissertation, 1968.

²J.D. Nyhart and Edmond F. Janssens, "A Global Directory of Development Finance Institutions in Developing Countries", Paris 1967, OECD.

³See Title III - United States Community Development Bank, p. 120 of Senate Bill (S.33) January 15, 1969 of the "Community Self-Determination Act of 1969".

banks⁴ is analyzed to determine if operational differences in the two types of banks are evident.

Development banks are unique financial institutions in underdeveloped countries. They specialize in providing high-risk, long-term financing for the purpose of industrialization. Herein lies the fundamental difference between a development bank and the traditional commercial bank, the latter type of bank almost never deals in long-term finance in underdeveloped countries.

The motivation for this type of study, emphasizing the narrow aspect of ownership, was prompted by the fact that at the time this study was undertaken (1967-1968), many international financial agencies (most notably the World Bank Group) had definite policies against direct lending to public development banks.⁵

⁴Banks are: India: Industrial Credit and Investment Corporation of India (ICICI) private; Industrial Development Bank of India (IDBI) public; Iran: Industrial and Mining Development Bank of Iran (IMDBI), private, Industrial Credit Bank of Iran (ICBI), public; Pakistan: Pakistan Industrial Credit and Investment Corporation (PICIC), private, Industrial Development Bank of Pakistan (IDBP), public; Philippines: Private Development Corporation of the Philippines (PDCP), private; Development Bank of the Philippines (DBP), public.

⁵Since Mr. Robert McNamara, became President of the World Bank a definite policy concerning loaning to public development banks is not apparent. The International Finance Corporation (part of The Group) has had primary responsibility for development banking finances in the past. It is clear that the policy of the IFC prohibits public development bank lending.

2. SUMMARY OF FINDINGS

In this study, it was determined that over all, very little difference existed between the two types of banks (public and private). However, there was a consistent difference between the banks in their operational costs. Here it was determined that the public banks tended to be more efficient than the private banks. In another area, the profitability of the banks, the private bank showed a tendency to earn a higher level of profit on loans than did the public bank. Here a very important question arises: If public development banks are more efficient in terms of operational costs, why are private banks earning a higher level of profit on loans? The answer to this question seems to lie in an examination of the inputs of the two types of banks. The inputs referred to consist of the funds that the development banks have at their disposal or can obtain for the purpose of loaning to industrial firms. The major source of inputs for the public banks comes from the government of the country in which the bank is located and is usually in the form of local currency. Correspondingly, a majority of the loans of the public banks to industrial firms are made in local currency. On the other hand, the private development banks, because of their favored position vis-a-vis the international institutions, acquire a high proportion of their inputs in the form of loans from these international institutions. These loans are made in foreign exchange. Furthermore, the costs of borrowing are found to be significantly lower for the private as compared with the public development banks. The private banks included in this analysis were more profitable but less efficient than the public development banks, and it is possible to presume

that the difference in profits for the two types of banks would be substantially reduced if the public banks were able to loan in foreign exchange, at input costs comparable to the private banks.

Therefore, part of the rationale, perhaps the most important part, for the lending policy of the international financial institutions seems to be generated by the very policy it is supposed to justify.

Another type of analysis is conducted to determine if an economic justification exists to support the international lending policy based on the belief that private development bank lending contributes more to economic development than does public development bank lending. AID policy for example explicitly states that: "Experience indicates . . . that private banks are in a more favorable position to contribute more efficiently to sound economic growth."⁶

In order to determine the impact of development bank lending on the economy, a sample of industrial firms which have borrowed from both types of banks is analyzed. The method for determining any existing differences between the firms is the same as the method used in the development bank analysis.

An analysis of the variables indicated that little difference existed between the clients of the public and private development banks. Only in Pakistan was there some deviation from this general tendency. In the case of Pakistan, the firms which borrowed from the private bank tended to be more profitable than those which borrowed from the public bank.

The explanation for this one exception can be traced to the availability of foreign exchange. The private bank controls about 75 percent of the foreign

⁶Department of State, AID, Agency for International Development Manual, 1963, p. 2.

exchange available to both types of banks in Pakistan. About 90 percent of the total loans made by the private bank are in foreign exchange whereas only 50 percent of the public's bank's loans are made in foreign exchange. As foreign exchange is scarce in a developing economy, it is reasonable to presume that the bank with greater availability of foreign exchange, in this case the private bank, can be more selective, and as a matter of policy, loan to the more profitable firms. Industrial firms, given the choice between borrowing in local currency as opposed to foreign exchange will naturally prefer the latter. Aside from this special case, there was no difference in the clients of private and public development banks.

If the major activity of a development bank is making industrial loans, and if the firms which borrow from the two types of development banks come from the same population, there can be little difference between the two types of banks in their impact on the economy.

3. METHOD OF ANALYSIS

The object of the analysis is to determine if there is any correlation between the ownership of the development bank, in terms of being private or public, and the success of its banking activities judged by the criteria explained below. In order to carry out this objective, the hypothesis is set as follows:

There is no significant difference between the selected public and private development banks in the selected developing countries in this study.

(The hypothesis is tested by means of regression analysis)

The data used in the succeeding analysis originates from published annual accounts and reports of the development banks and industrial firms selected for analysis; from unpublished papers and accounts of the banks and firms in question; and from information gained through personal contact and interviews with the managers and representatives of each of the development banks in the study.

Four separate comparisons consisting of analysis between the public and private development banks and firms which have borrowed from development banks in this study.

In the first comparison, the banks are analyzed to determine if a significant difference exists between these banks within each of the four countries selected for comparative analysis in the study.

The other three analyses concern:

1. selected industrial firms which have borrowed from the private and public development banks in India and Pakistan are analyzed to determine if these selected firms come from the same population. If there is no significant difference in testing the hypothesis, then the firms come from the same population, that is, those borrowing from the public bank are no difference from those who borrow from the private bank. Conversely, if there is significant

difference in testing the hypothesis, then the firms come from different populations.

2. all private development banks are taken together and are compared with all public development banks for the four countries in the study. This is done to determine if a significant difference exists between simply private banks and public banks, regardless in which of the four countries they physically exist.
3. firms which have borrowed from the private banks are compared with the firms which have borrowed from the public banks, again to see if the question of ownership alone, and not the physical location of the firm makes a significant difference between the firms which have borrowed from each bank.

4. RATIONALE FOR SELECTING BANKS

The criteria used for selecting the banks and the countries to be studied limits the analysis to those underdeveloped countries which: a) have both a public and private development bank (as explained on page 3), and (b) have a private bank which has received financial assistance from both the World Bank Group and U.S. AID. In this way, both public and private development banks can be analyzed within single countries in light of the restrictive policies of both the World Bank Group and AID. Certain other countries considered for analysis were rejected because they did not fulfill the above conditions.

5. CHARACTERISTICS OF DEVELOPMENT BANKS

While it is difficult to develop a model development bank, they all seem to have a basic common characteristic, that being the introduction of long-term investment objectives into an economy which had traditionally been characterized by short-run outlook.⁷ By introducing a long-term philosophy, the banks also provide a means by which domestic capital can be utilized within the underdeveloped country in question. Without a mechanism to bring together resources of a long-term nature, as well as the investment opportunity itself, there is little incentive for domestic capital which may be available for this type of investment to be invested in the country in question.⁸

In addition to providing capital, development banks also serve as a source for technical assistance. This assistance may take the form of advice concerning known investment opportunities and/or in the creation of investment opportunities (i.e., pre-investment surveys). Therefore, two important functions for investment are provided by the development: the provision of the means for investment, and the promotion of a source of investment opportunities.

Development banks are unique in another respect when compared with other types of financial institutions in underdeveloped countries. Commercial banks, for example, have a relatively long time in which to develop and specialize their operations. This is true in developed as well as underdeveloped economies. Development banks, comparatively new institutions of the post World War II era, have not had this extended period of time in which to experiment with or to perfect their procedures.⁹ Furthermore, development banks do not

⁷ Richard E. Benedick, Industrial Finance in Iran, (Cambridge: Harvard University Press, 1960), p. 6.

⁸ Ibid., p. 6.

⁹ Edward Nevin, Capital Funds in Underdeveloped Countries (New York: St. Martin's Press, 1961), p. 72.

have an extended period of time in which to develop these specialized functions. Underdeveloped economies desire to accelerate their rate of economic development, and in the process they must also accelerate the rate and formation of institutions which are required to support this economic development.

6. EXTERNAL FINANCE INSTITUTIONS

The major external finance institutions which have provided financial and technical assistance to development banks are:

A. The World Bank Group. This group consists of

1. The International Bank for Reconstruction and Development,
2. The International Finance Corporation, and
3. The International Development Association.

B. The United States Agency for International Development.

Development Bank Analysis, A Summary of the Results. As was mentioned previously, four distinct types of analysis are conducted in this study. However, for the sake of brevity, only the statistical results of total bank and total firm analysis are presented in this paper. It should also be noted that the internal consistencies found in the individual bank and firm analysis is consistent with the total analysis. The results of the two individual analyses are presented in Table 2.

7. DEVELOPMENT BANK ANALYSIS

Here, all public development banks are compared with all private development banks, without regard to the country in which the banks operate.¹⁰

A summary of the results of the significance of difference in the form of the "t" value and the results of the tests of the hypothesis (stated earlier) for all private and public development banks in this study are presented below.

Necessary information to interpret the "t" value is:

- A. The degrees of freedom are equal to 44, and
- B. The region of rejection for the null hypothesis ~~is~~ at the 0.025 level is equal to: $2.020 < "t" < -2.020$.

7.1 The Analysis of Group I Variables - Volume of Business.

<u>Dependent variable description</u>	<u>Observed "t" value</u>	<u>Null Hypothesis</u>	
		<u>Accept</u>	<u>Reject</u>
(1) Average rate of return on total amount of industrial loans	-0.44505	X	
(2) Total amount of industrial loans	-2.12141		X
(3) Total number of industrial loans	-3.31347		X
(4) Average size industrial loan	-0.12271	X	

When all of the private and public development banks are analyzed without regard to the location of the bank, it becomes more apparent than in the case of individual country comparisons that differences between the banks are important.

In Group I, variable (1), average rate of return on total amount of industrial loans, the difference which exists is highly insignificant. This means

¹⁰ See footnote 4 for banks in the sample.

that the revenue generated from the loaning operation of the banks, both public and private, without regard to the location of the banks, is similar.

It is found that the public banks, taken together, are larger institutions in terms of the magnitude of the loaning operation of the banks, variable (2). Also, the total number of loans, variable (3), is greater for the public rather than for the private banks. Both variables (2) and (3) have negative signs, which indicate that the public banks have the greater number and larger total amount of loans. The average size industrial loan, variable (4), however, shows that when all of the banks are examined together, there is no significant difference in their average size loan.

The basic observation from the analysis of Group I variables, the volume of business of the public and private bank, is that the public banks tend to make the larger volume of loans, and the greater number of loans, and hence are larger financial institutions than are the private banks. They earn similar rates of revenues, in proportion to the loans granted, and tend to make loans of the same size.

7.2 The Analysis of Group II variables - Costs of Operation.

<u>Dependent variable description</u>	<u>Observed "t" value</u>	<u>Null Hypothesis</u>	
		<u>Accept</u>	<u>Reject</u>
(1) Total expenses to total amount of industrial loans	0.11313	X	
(2) Average expenditure per industrial loan	2.40648		X
(3) Average expenditure per industrial loan to average size loan	0.10882	X	
(4) Taxes paid to gross income	2.11414		X

The analysis of Group II variables, the costs of operation of the development banks in total, is very important. It is these variables which have been referred to in previous parts of the study as the economic variables. Here, measures of economic efficiency of the public and private development banks can be determined for all of the banks in the study.

In variable (1), the total expenses to total amount of industrial loans for the two classes of banks are for all practical purposes the same. The observed "t" value is so small that the difference which does exist is insignificant. This means that for the total amount of industrial loans, and for the total amount of expenses, the ratio of these for the banks is the same.

However, in variable (2), the average expenditure per industrial loan, the observed "t" value is greater than the theoretical "t" value, and is positive. This indicates that the private banks tend to have a higher expense per individual loan than do the public banks.

The relative difference for all the public and private development banks between their average expenditures per loan and the average size loan, variable (3), is quite small, so the difference which does exist is insignificant. This means that the average size loan for the private which is only slightly smaller than for the public bank (see variable (4) in Group 1) as with the higher average expenditure per loan for the private bank, (which is considerably higher than for the public bank,) produces a ratio that when compared with the same ratio for the public bank is similar. However, the positive value of the observed "t" in variable (3), indicates that the expenses per average size loan for the private bank are larger than for the public bank, but not significantly larger.

In variable (4), taxes paid to gross income, it is found that the private banks pay a somewhat higher rate of taxes than do the public banks.

7.3 The Analysis of Group III Variables - Utilization of Resources.

<u>Dependent Variable description</u>	<u>Observed "t" value</u>	<u>Null Hypothesis</u>	
		<u>Accept</u>	<u>Reject</u>
(1) Total amount of industrial loans to total assets	-0.17607	X	
(2) Average size industrial loan to total assets	1.70862	X	
(3) Total amount of industrial loans to capital account	-2.21260		X

In Group III, the utilization of the resources of the public and private development banks, the point is again emphasized that the main difference between the banks is one of size. The public banks tend to be larger institutions, in terms of the volume of loans made per year, than the private banks.

In variable (1), total amount of industrial loans to total assets, and in variable (2), average size industrial loan to total assets, the observed "t" values for the banks are small so the null hypothesis is not rejected in either instance. It is observed that in variable (2), the positive "t" value means that the private banks have a higher level of total assets than do the public banks. The reason is that by referring to variable (4), in Group I, it is found that there is no difference in the average size loan for the banks. Therefore, in order for the ratio of the average size loan to total assets to be positive, the private banks must have a larger amount of total assets.

In variable (3), the total amount of loans to capital account, all of the public and private banks in the study show that the public banks have a higher volume of total loans than do the private banks. The observed "t" value is

almost of the same magnitude as it was in variable (2), in Group I. It is also interesting to note here that the private banks have a higher amount of total assets than do the public banks, but a lower total amount of industrial loans. This would seem to mean that the public banks use a higher proportion of their total assets for lending than do the private banks.

7.4 The Analysis of Group IV Variables - Profitability of the Enterprise.

<u>Dependent variable description</u>	<u>Observed "t" value</u>	<u>Null Hypothesis</u>	
		<u>Accept</u>	<u>Reject</u>
(1) Gross profit to total assets	1.8977	X	
(2) Gross profit to total amount of industrial loans	2.79738		X
(3) Gross profit to total capital account	0.74427	X	

Once again the variables comprising Group IV, the profitability of the banks, must be carefully analyzed in light of the importance which the international institutions place on these types of measures.

In the individual country analysis, the private development banks tended to show higher levels of profit than did the public banks. However, when all private banks are compared with all public banks, there is only one variable, variable (2) profits to loans, in which a significant difference exists between the two types of banks. In variable (1), gross profit to total assets, and in variable (3), gross profit to total capital, the difference between the public and private development banks, as measured by the observed "t" values is small and the null hypothesis is not rejected.

It was observed in that part of the analysis, where each bank was analyzed individually, that the private bank tends to obtain resource inputs from international institutions at a greater rate and at a higher volume than is available to the public bank. It was also discovered that, in some instances, the

costs of these international loans were at rates of interest (to the development banks receiving the loans) somewhat below the re-lending rates of the development banks. For example, the private bank may obtain a loan in foreign exchange at a rate of interest of five to six percent and re-lend at a rate of interest between eight and 12 percent, a rate of interest not uncommon in the developing world.¹¹ It appears, therefore, that one of the more probable explanations for the higher level of profits for the private banks, in variable (2), is the difference in the inputs costs for the two banks.

7.5 The Analysis of Group V Variables - Safety of the Operation.

<u>Dependent variable description</u>	<u>Observed "t" value</u>	<u>Null Hypothesis</u>	
		<u>Accept</u>	<u>Reject</u>
(1) Debt to equity ratio	0.24535		X

The debt to equity ratio for the public and private banks, by reference to the observed "t" value, is sufficiently similar for both types of banks not to reject the null hypothesis. In fact, the "t" value is low enough so that the difference which does exist is highly insignificant.

The analysis of all public and private development banks reveals two observations: (1) the public banks tend to be more efficient than the private banks in terms of the average costs per loan of the two types of banks, and (2) the private banks tend to earn a higher rate of profit on industrial loans than do the public banks.

A policy by the international institutions based on the profitability of the enterprises would tend to show a bias toward loaning only to private development banks. However, these international institutions might adopt a more

¹¹J.T. Dock Houlk, Financing and Problems of Development Banking, (New York: Frederick A. Praeger, 1967), pp. 36-37.

flexible policy based on broader aspects of development banking, such as matters of economic efficiency along with profitability, as well as other considerations, in setting criteria for loaning to development banks.

8. FIRM ANALYSIS

In this section, all of the selected firms which have borrowed from the private development banks in India and Pakistan are compared with all selected firms which have borrowed from the public development banks in India and Pakistan. The industrial firms are compared on the basis of either having borrowed from a private or public development bank, without regard to the physical location of the firm.

A summary of the results of the significance of difference in the form of the "t" value and the results of the tests of the null hypothesis for all industrial firms which have borrowed from the private and public development banks in India and Pakistan is presented below. Necessary information needed to interpret the "t" value is:

- A. The degrees of freedom are equal to 33, and
- B. The region of rejection for the null hypothesis is at the 0.025 level (five percent) is equal to: $2.040 < "t" < -2.040$

GROUP I VARIABLES Resources of Firm

<u>Dependent Variable Description</u>	<u>Observed "t" value</u>	<u>Null Hypothesis</u>	
		<u>Accept</u>	<u>Reject</u>
(1) Total assets to total capital amount	-0.46159	X	

GROUP II VARIABLES Costs of the Firm

(1) Total expenditures to total sales	-0.28104	X
---------------------------------------	----------	---

GROUP III VARIABLES Profitability of the Firm

(1) Gross profit to total assets	0.85700	X
(2) Gross profit to sales	0.85463	X
(3) Gross profit to capital account	0.60681	X
(4) Gross profit to equity	1.00501	X

GROUP IV VARIABLES
Safety of the Firm

(1) Short-term assets to short-term liabilities	0.12229	X
(2) Current debt to total debt	0.64385	X
(3) Debt to equity	0.88735	X

GROUP V VARIABLES
Age of Firm

(1) Years in Business	1.25139	X
-----------------------	---------	---

Very little needs to be said about the results of the testing of the null hypothesis. In each of the ten testings of the hypothesis, the conclusion is drawn that the firms which have borrowed from the two types of banks come from the same population. Most of the observed "t" values are less than one, which indicates that the clients of the two types of banks are very similar.

A lending policy of the international institutions in this study which discriminates against public development bank lending because of a difference in the firms which borrow from the two types of banks would not seem to be justified on economic grounds on the basis of this analysis. The findings suggest that the clients of the private and public development banks in this study are similar.

9. CONCLUSION

In summary, it appears that many of the popular convictions which have been formed about public enterprise (especially by the World Bank) in developing countries is inaccurate, at least in the case of public development banks. It may be that in other situations, (i.e., other countries) either public or private financial institutions are more appropriate. The point of this study is that development finance (and foreign exchange) should not be denied a financial institution (and hence the country) simply because of the ownership of the bank. A more rational policy would seem to be that each bank is evaluated on an individual basis, without regard to ownership, and decisions (rules) concerning the extension of loans be made on economic rather than political criteria.

Table 1Variables Used in the Analysis of Development BanksGroup I - Volume of Business

- (1) Average rate of return on total amount of industrial loans: The average rate of return is equal to total interest income earned on only the total industrial loans which the bank has made during the appropriate time period, divided by the total amount of industrial loans.
- (2) Total amount of industrial loans per time period
- (3) Total number of industrial loans per time period

Group II - Costs of the Operation

- (1) Total expenses to total amount of industrial loans: Total expenditures of the banks are defined as consisting of wages and salaries, interest expense, amortization expenses, and all other administrative expenses.
- (2) Average expenditure per industrial loan
- (3) Average expenditure per industrial loan to average size industrial loan
- (4) Taxes paid to gross income: Total taxes paid per time period are determined from the annual reports of the banks and are usually reported in either of two forms. One form is as the difference between income before taxes and income after taxes (net income) and the other is as a provision for income taxes. Gross income per time period is defined to equal net income (income after taxes) plus income tax payments for the appropriate time period.

Group III - Utilization of Resources

- (1) Total amount of industrial loans to total assets: Total assets per time period include current assets, loans receivable and equity investments, all other investments, fixed assets and all other assets.
- (2) Average size industrial loan to total assets
- (3) Total amount of industrial loans to capital account: Total capital account equals all capital stock issued, in monetary terms.

Group IV - Profitability of the Enterprise

- (1) Gross profit to total assets: Gross profit is defined to equal gross income

Table 1 cont'd

(2) Gross profit to total amount of industrial loans

(3) Gross profit to total capital account

Group V - Safety of the Operation

(1) Debt to equity: Total debt equals current liabilities plus long-term debt. Total equity equals capital stock plus retained earnings.

Table 2

Summary of Statistical Analysis (By Country)					
of the Development Banks					
(0.025 level of significance)					
Group Number	Variable ¹	Iran	India	Pakistan	Philippines
		d.f.=13 "t" \pm 2.16	d.f.=13 "t" \pm 2.16	d.f.=11 "t" \pm 2.20	d.f.=10 "t" \pm 2.23
		t value ²	t value	t value	t value
I	1	1.51	7.13	0.46	-1.38
	2	-9.17	-7.57	4.15	-1.90
	3	-4.82	5.49	-5.51	-5.77
	4	0.59	-23.94	4.36	5.49
II	1	2.83	-0.30	2.69	-1.99
	2	-0.02	0.57	4.69	5.02
	3	0.59	0.59	1.51	-2.02
	4	2.04	8.63	-4.24	0.47
III	1	-0.31	-18.68	1.33	1.72
	2	2.74	-7.13	3.53	7.05
	3	-6.26	-7.88	-13.67	0.01
IV	1	3.74	2.71	2.40	4.46
	2	-1.53	4.39	2.31	3.24
	3	-1.91	6.26	-0.66	2.59
V	1	-2.28	0.20	-5.24	-2.82

¹See Table 1 for variable names and definitions

²A positive "t" value refers to private bank, a negative "t" value to public bank

Table 3
Variables Used in the Analysis
of Firms Borrowing From Development Banks

Group I - Resources of the Firm

- (1) Total assets to total capital account

Group II - Costs of the Firm

- (1) Total expenditures to total sales

Group III - Profitability of the Firm

- (1) Gross profit to sales
- (2) Gross profit to total assets
- (3) Gross profit to capital account
- (4) Gross profit to equity

Group IV - Safety of the Firm

- (1) Short-term assets to short-term liabilities
- (2) Current debt to total debt
- (3) Debt to equity

Group V - Age of the Firm

- (1) Years in Business

Table 4
Summary of Statistical Analysis of Firms
 (0.025 level of significance)

Group Number	Variable	India d.f.=19 "t" = -2.09	Pakistan d.f.=17 "t" = 2.11
		<u>"t" value</u>	<u>"t" value</u>
I	1	-0.21	0.61
II	1	-2.09	-0.56
III	1	-0.85	2.78
	2	-1.69	2.25
	3	0.55	0.66
	4	-0.64	2.40
IV	1	0.42	-1.09
	2	0.59	2.46
	3	1.04	0.32
V	1	1.93	-0.08

¹See Table 3 for Variable Names

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